

WHAT IS CLAIMED IS:

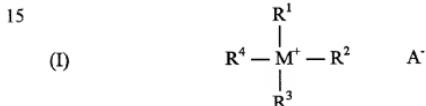
1. A process of preparing a rubber composition which contains a dispersion of intercalated and at least partially exfoliated clay which comprises

5 blending, based upon parts by weight per 100 parts by weight rubber (phr):

- 100 phr of at least one hydrocarbon diene-based elastomer,
- about one to about 20 phr of smectite clay,
- hydrocarbyl onium salt, and
- about 20 to about 99 phr of at least one additional reinforcing filler

10 comprised of carbon black, synthetic amorphous silica or silica treated carbon black and mixtures thereof,

wherein said hydrocarbyl onium salt is of the general formula (I) represented in an ionized form comprised of a cation and an anion (A⁻):



20 wherein R¹ is hydrogen or an alkyl group containing from one to three carbon atoms; R², R³ and R⁴ are individually selected from alkyl groups having from one to 40 carbon atoms and allyl and aryl groups having from 6 to 40 carbon atoms; and

wherein A⁻ is an anion selected from one of chloride, bromide, iodide, fluoride, 25 cyanide, nitrate, hydroxide, thiocyanate, perchlorate, chlorate, bromate, permanganate, formate, acetate, propionate, benzoate, m-toluate, p-toluate, salicylate, methane sulfonate, bisulfate, bicarbonate, dihydrogen phosphate, phenoxide, picrate, methoxide, alkoxide and like anions having a single negative charge, and wherein M is selected from nitrogen, sulfur or phosphorous.

30 2. The process of claim 1 wherein said R¹ is hydrogen.

3. The process of claim 1 wherein R¹ is an alkyl group selected from methyl and ethyl groups.

4. The process of claim 1 wherein said R², R³ and R⁴ are individually selected from at least one of methyl, decyl, octyl, octadecyl, benzyl and ethylhexyl groups, and from tallow and hydrogenated tallow.

5. 5. The process of claim 1 wherein A⁻ is Cl⁻.

6. The process of claim 1 wherein M is nitrogen.

7. The process of claim 1 wherein R¹ is selected from hydrogen, methyl and ethyl groups; R², R³ and R⁴ are individually selected from alkyl groups having from 1 to about 18 carbon atoms, M is nitrogen and A⁻ is Cl⁻.

8. The process of claim 1 wherein said hydrocarbon onium salt is a quaternary ammonium salt used in an amount of about 0.5 to about 2 moles of ammonium moiety per mole of sodium ion of said clay.

9. The process of claim 1 wherein said hydrocarbyl onium salt is selected from methyl trialkyl ammonium chloride, trimethyl alkyl ammonium chloride, dimethyl dialkyl ammonium chloride, dimethyl alkyl allyl ammonium chloride and dimethyl diallyl ammonium chloride

10. A rubber composition prepared by the process of claim 1.

11. A rubber composition prepared by the process of claim 1 wherein said clay is a montmorillonite or hectorite clay.

12. A rubber composition prepared by the process of claim 7.

13. An article of manufacture having at least one component of a rubber composition comprised of the rubber composition of claim 10.

14. A tire having at least one component of a rubber composition comprised of the rubber composition of claim 10.

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15. A tire having at least one component of a rubber composition comprised of the rubber composition of claim 11.

16. A tire having at least one component of a rubber composition comprised
5 of the rubber composition of claim 12.

17. A tire having a tread of a rubber composition comprised of the rubber composition of claim 10.

10 18. A tire having a tread of a rubber composition comprised of the rubber composition of claim 12.

19. A tire having at least one component of a rubber composition prepared by the process of claim 1.

15 20. A tire having at least one component of a rubber composition prepared by the process of claim 7 wherein said clay is a montmorillonite or hectorite clay.

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